REMARKS

Claim 1 has been amended to incorporate the subject matter of claims 4 and 8 some of the language of claim 19. Consequently, claims 3, 4, 8, 16- 18 and 23 have been canceled, the dependencies changed in claims 5, 7. 9, 10 19 and 20 and the language of claim 19 modified.

Claim 1 is alleged to be anticipated under 25 USC 102(b) by any one of Hideaki (JP09-227119), Yamamoto (US 5,770,644) and Hunters and under 35 USC 102(e) by Chtyall (US 2003-209699).

As noted in MPEP 2131, quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987),

> "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

None of the references cited above meets ths requirement for claim 1. The invention as defined by amended claim 1 is an inorganic-organic hybrid (I0H) which comprises (i) an expandable swellable inorganic component **which is a naturally occurring or a synthetic analogue of a phyllosilicate having a platelet thickness less that 5 nanometers and an aspect ratio greater than 10: 1,** and (ii) an organic component including two parts: at least one ionic organic component and one or more neutral organic components, these components being intercalated between and/or associated with the layer(s) of the inorganic component. The neutral organic component is further defined as a neutral derivative of a nitrogen based molecule and the ionic organic component is further defined as an ionic derivative of a triazine based molecule.

Claim 1 also requires that the ionic and neutral organic components decompose or sublime endothermically, and/or release volatiles with low combustibility on decomposition and/or induced charring of organic species during thermal decomposition or combustion.

None of Hideaki, Yamamoto, Hunters or Chyall disclose an inorganic component which is a naturally occurring or a synthetic analogue of a phyllosilicate having a platelet thickness less than 5 nanometers and an aspect ratio greater than 10: 1 as required by the amended claims.

This is acknowledged by the Examiner as he has not cited Hideaki, Yamamoto, Hunters or Chyall against original claim 8.

Furthermore, the amended claims require that the ionic organic component is an ionic derivative of a triazine based molecule. Hideaki, Yamamoto, Hunters or Chyall each disclose that the neutral organic component (melamine) may comprise triazine but none of Hideaki, Yamamoto, Hunters or Chyall disclose that the ionic organic component may be an ionic derivative of a triazine based molecule.

It is therefore submitted that the invention as claimed in Claim 1 meets the requirements of 35 USC 102 with respect to the art cited. Since claim 1 meets these requirements, it follows that the remaining claims under examination which are all either directly or indirectly dependent on Claim 1 and therefore include all of its limitations also meet the requirements of 35 USC 102.

The examiner alleges obviousness of original Claim 8, which as noted above has been incorporated into amended Claim 1 over the combination of Chyall referred to above and Usuki US patent 4,889,885. However nothing in either of these documents points to the requirement of amended Claim 1 that the IOH comprises an organic component which includes at least one ionic organic component which is an ionic derivative of a triazine based molecule.

Chyall discloses a composition comprising an ionic organic component which is an ammonium compound. However, Chyall does not teach or suggest that the ionic organic component may be an ionic derivative of a triazine based molecule.

Usuki discloses a composite material comprising a resin (other than a polyamine resin) and a

layered silicate. Usuki discloses that the layered silicate is subjected to ion exchange with an onium salt which may be an ammonium salt, pyridinium salt, sulfonium salt, or phosphonium salt. However, Usuki does not teach or suggest that the ionic organic component may be an ionic derivative of a triazine based molecule.

Using ammonium salts as suggestetd by Usuki as the ionic organic component can make the clay more hydrophobic which may not result in endothermic decomposition or sublimation and/or release of volatile with low combustibility on decomposition and/or induced charring of organic species during thermal decomposition or combustion as required by the amended claims.

A person skilled in the art following the teaching of Chyall combined with Usuki would not develop an IOH comprising an organic component which includes at least one ionic organic component which is an ionic derivative of a triazine based molecule as neither document teaches this feature and therefore neither document remedies the deficiency of the other. Nor is there any other reason why one skilled in the art would be motivated to employ an ionic derivative of a triazine based molecule in an IOH as claimed.

The Supreme Court has pointed out that:

> [R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR International Co. v. Teleflex, Inc.* 550 U.S. 398 82 USPQ2d 1385 (2007) .

No such rational underpinning for using an ionic derivative of a triazine based molecule exists in the present case.

It is therefore submitted that Claim 1 and consequently all of the claims dependent on it meet the requirements of 35 USC 103.

In view of the foregoing, it is submitted that this application is in order for allowance and an early action to this end is respectfully solicited.

Respectfully submitted,

JOHN RICHARDS
C/O LADAS & PARRY LLP
26 WEST 61ST STREET
NEW YORK, NEW YORK 10023
REG. NO. 31053
TEL. NO. (212) 708-1915